

2 - 15 - 2

Receipt

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**In re Application of:** Sporer et al.

**Serial No. :** 09/889,697

**Filed:** October 19, 2001

**Title:** SYSTEM AND METHOD FOR EVALUATING THE QUALITY OF MULTI-CHANNEL AUDIO SIGNALS



**Docket No.:** SCHO0057

**Art Unit:** 2644

**Examiner:** Unassigned

February 13, 2002

Assistant Commissioner for Patents  
Application Processing Division  
Customer Correction Branch  
Washington, DC 20231

**REQUEST FOR A CORRECTED FILING RECEIPT**

Dear Sir:

Applicant, by his attorney, requests correction of the Official Filing Receipt for the above-referenced patent application. The title is incorrect. Please change the title from "System and Method for evaluatting the quality of multi-channel audiosignals" to - -System and Method for Evaluating the Quality of Multi-Channel Audio Signals--. The words 'evaluating' and 'audio signals' are misspelled. A copy of the application's first page, the cover sheet for the Clean Copy After Annotations, and a copy of the original Filing are enclosed.

Respectfully submitted,

Michael A. Glenn  
Reg. No. 30,176

**Customer No. 22862**



## UNITED STATES PATENT AND TRADEMARK OFFICE

COMMISSIONER FOR PATENTS  
UNITED STATES PATENT AND TRADEMARK OFFICE  
WASHINGTON, D.C. 20231  
www.uspto.gov

APPLICATION NUMBER	FILING DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	DRAWINGS	TOT CLAIMS	IND CLAIMS
09/889,697	10/19/2001	2644	1008	SCHO0057	3	21	2

22862  
GLENN PATENT GROUP  
3475 EDISON WAY  
SUITE L  
MENLO PARK, CA 94025



CONFIRMATION NO. 8669

## FILING RECEIPT



\*OC000000007382769\*

Date Mailed: 01/30/2002

Receipt is acknowledged of this nonprovisional Patent Application. It will be considered in its order and you will be notified as to the results of the examination. Be sure to provide the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION when inquiring about this application. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. If an error is noted on this Filing Receipt, please write to the Office of Initial Patent Examination's Customer Service Center. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections (if appropriate).

## Applicant(s)

Thomas Sporer, Fuerth, GERMANY;  
Roland Bitto, Nuernberg, GERMANY;  
Karlheinz Brandenburg, Erlangen, GERMANY;

RECEIVED

FEB 27 2002

## Domestic Priority data as claimed by applicant

THIS APPLICATION IS A 371 OF PCT/EP99/09979 12/15/1999

Technology Center 2600

## Foreign Applications

Projected Publication Date: Not Applicable, filed prior to November 29, 2000

Non-Publication Request: No

Early Publication Request: No

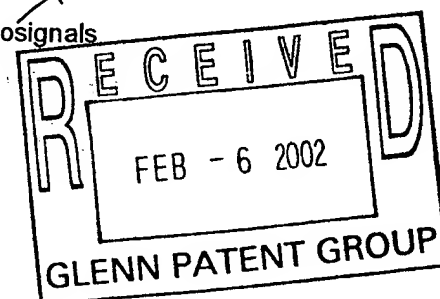
## Title

System and method for evaluating the quality of multi-channel audiosignals

## Preliminary Class

381

DOCKETED

By: *26*Date: *2/7/02*

6.

National Phase of PCT/EP99/09979 in U.S.A.

Title: System and method for evaluating the quality of  
multi-channel audio signals — correct

Applicants: SPORER, Thomas; BITTO, Roland; BRANDENBURG  
Karlheinz

---

Final version of PCT/EP99/09979 for the prosecution at the  
USPTO to be filed as

Clean copy after annotations  
made

---

*correct*      *correct*

# System and method for evaluating the quality of multi-channel audio signals

## Field of the Invention

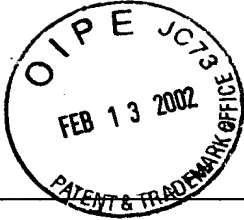
The present invention relates to quality evaluation and in particular to a System and method for evaluating the quality of multi-channel audio signals.

## Background of the Invention and Prior Art

Since listening-adapted digital coding methods have been standardized, they have been used to an increasing extent. Examples for such cases of use are the digital compact cassette, the minidisk, digital terrestrial radio broadcasting and the digital video disk. When coding is effected by means of listening-adapted coding methods, artificial products or artifacts may, however, occur, which did not occur in analog audio signal processing.

For judging or evaluating a specific encoder, listening test with test persons were carried out in the past. Although the average result provided by such listening tests is comparatively reliable, there is still a subjective component. Furthermore, listening tests executed with a certain number of test persons are comparatively complicated and therefore comparatively expensive. Hence, measurement methods have been developed for a listening-adapted evaluation of audio signals.

Such a measurement method is described e.g. in DE 196 47 399 C1. The method of listening-adapted quality evaluation described in this publication models all non-linear hearing effects onto a reference signal as well as onto a test signal. The listening-adapted quality evaluation is carried out by means of a comparison in the cochlear domain. In so doing, the excitations caused in the ear by the test signal and by the reference signal are compared. For this purpose, both the audio reference signal and the audio test signal are divided into their spectral components by a filter bank. By means of a large number of filters whose frequencies overlap, a sufficient resolution with respect to time as well as frequency is guaranteed. Hence, a mono audio test signal, which is derived from an audio reference signal by coding and subsequent decoding, can be evaluated with regard to its quality.



**CERTIFICATE OF EXPRESS MAIL UNDER 37 CFR 1.10**

Express Mail mailing label no. EL556471273US

Date of Deposit: February 13, 2002

I hereby certify that this paper or fee is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated above and is addressed to the Commissioner of Patents and Trademarks, Box Assignments, Washington, D. C. 20231.

  
Antoinette Fabris

Attorney Docket No: SCHO0057

Items attached:

- Request for Corrected Filing Receipt
- Copy of Application's first page
- Cover sheet from Clean Copy After Annotations
- Copy of Original Filing Receipt
- Return Postcard

**Customer No. 22862**



## UNITED STATES PATENT AND TRADEMARK OFFICE

FILE COPY

 COMMISSIONER FOR PATENTS  
 UNITED STATES PATENT AND TRADEMARK OFFICE  
 WASHINGTON, D.C. 20231  
 www.uspto.gov


Bib Data Sheet

CONFIRMATION NO. 8669

<b>SERIAL NUMBER</b> 09/889,697	<b>FILING DATE</b> 10/19/2001 <b>RULE</b>	<b>CLASS</b> 381	<b>GROUP ART UNIT</b> 2644	<b>ATTORNEY DOCKET NO.</b> SCHO0057
<b>APPLICANTS</b> Thomas Sporer, Fuerth, GERMANY; Roland Bitto, Nuernberg, GERMANY; Karlheinz Brandenburg, Erlangen, GERMANY;				
<b>** CONTINUING DATA *****</b> THIS APPLICATION IS A 371 OF PCT/EP99/09979 12/15/1999				
<b>** FOREIGN APPLICATIONS *****</b>				
<b>IF REQUIRED, FOREIGN FILING LICENSE GRANTED</b> ** 02/21/2002				
Foreign Priority claimed <input type="checkbox"/> yes <input type="checkbox"/> no 35 USC 119 (a-d) conditions met <input type="checkbox"/> yes <input type="checkbox"/> no <input type="checkbox"/> Met after Allowance Verified and Acknowledged	Examiner's Signature _____ Initials _____	<b>STATE OR COUNTRY</b> GERMANY	<b>SHEETS DRAWING</b> 3	<b>TOTAL CLAIMS</b> 21
<b>INDEPENDENT CLAIMS</b> 2				
<b>ADDRESS</b> 22862				
<b>TITLE</b> System and method for evaluating the quality of multi-channel audio signals				
<b>FILING FEE RECEIVED</b> 1008	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:		<input type="checkbox"/> All Fees <input type="checkbox"/> 1.16 Fees ( Filing ) <input type="checkbox"/> 1.17 Fees ( Processing Ext. of time ) <input type="checkbox"/> 1.18 Fees ( Issue ) <input type="checkbox"/> Other _____ <input type="checkbox"/> Credit	